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DERWENT-WEEK: 200048

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TITLE: Method for preventing dielectric cracking of

capacitors by employing

spacer structure to cover the shape corner at the bottom of

stacked capacitor

sidewall

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PATENT-ASSIGNEE: UNITED MICROELECTRONICS CORP[UNMIN]

PRIORITY-DATA: 1998TW-0112803 (August 4, 1998)

PATENT-FAMILY:

PUB-NO PUB-DATE LANGUAGE

MAIN-IPC PAGES

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APPLICATION-DATA:

APPL-DESCRIPTOR PUB-NO APPL-NO

APPL-DATE

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INT-CL (IPC): H01L027/108

ABSTRACTED-PUB-NO: TW 381343A

BASIC-ABSTRACT: NOVELTY - Method for preventing dielectric

cracking of

capacitors which has the following steps: firstly,

providing a semiconductor

substrate on which formed a protruded stacked capacitor

structure; then,

forming the first dielectric on the stacked capacitors and semiconductor

substrate with the material as BPSG, SOG or PSG; applying

annealing process

with the temperature range between 800-900 degree C; then,

applying back

etching process to etch the first dielectric and forming the spacer structure

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on sidewall of stacked capacitors wherein the spacer is the feature of the

present invention which can cover the sharp corner at the bottom of stacked

capacitor sidewall to prevent the dielectric cracking in following deposition;

then, forming the **second dielectric** on the spacer and stacked **capacitor** with

the material as <u>silicon dioxide</u> and with the forming method as plasma enhanced chemical vapor deposition.

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS:

METHOD PREVENT DIELECTRIC CRACK <u>CAPACITOR</u> EMPLOY SPACE STRUCTURE COVER SHAPE
CORNER BOTTOM STACK <u>CAPACITOR</u> SIDEWALL

DERWENT-CLASS: L03 U13 U14

CPI-CODES: L04-C14A;

EPI-CODES: U13-C04B1A; U14-A03B4;

SECONDARY-ACC-NO:

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